

SEQUENCE LISTING

<110> PHARMA PACIFIC PTY LTD

<120> INTERFERON-ALPHA A INDUCED GENE

<130> N.88280A JCI

<160> 2

<170> PatentIn version 3.1

<210> 1

<211> 6045

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (243)..(5381)

<223>

<400> 1

agcgggctgg gtcctaggcc aggtctgggg taacctggaa cttccacctg ggctctgcgc	60
taggtctctg tttcactccc tccccgcggg gcgcgcagct cgcggtctt tggacaccac	120
cggtcctgag tccgcggact gccattttca ttaagaactg ccacttagag gtaccaaagt	180
aaaggggtatt tgctaccttt aatacttgcc agttcaggtt ggaggcacag gcagcagcaa	240
ga atg gaa aga aat gtt ctt aca aca ttt tca c ag gaa atg tcc cag	287
Met Glu Arg Asn Val Leu Thr Thr Phe Ser Gln Glu Met Ser Gln	
1 5 10 15	
tta att ttg aat gaa at g cca aaa gct gaa tat tcc agt tta ttc aat	335
Leu Ile Leu Asn Glu Met Pro Lys Ala Glu Tyr Ser Ser Leu Phe Asn	
20 25 30	
gat ttt gtt gaa tct ga a ttt ttt ttg att gat ggg gat tca tta ctt	383
Asp Phe Val Glu Ser Glu Phe Phe Leu Ile Asp Gly Asp Ser Leu Leu	
35 40 45	
atc aca tgt atc tgt ga g ata tca ttt aag cct ggg cag aac ctc cat	431
Ile Thr Cys Ile Cys Glu Ile Ser Phe Lys Pro Gly Gln Asn Leu His	
50 55 60	
ttc ttc tat ctg gtt ga a cgc tat ctt gtg gat ctt att agc aaa gga	479
Phe Phe Tyr Leu Val Glu Arg Tyr Leu Val Asp Leu Ile Ser Lys Gly	
65 70 75	
gga caa ttc acc ata gt t ttc ttc aag gat gcc gag tat gcg tat ttc	527
Gly Gln Phe Thr Ile Val Phe Phe Lys Asp Ala Glu Tyr Ala Tyr Phe	
80 85 90 95	

aac ttc cct gaa ctt ctt tct ttg aga act gct tta att ctt cat ctt Asn Phe Pro Glu Leu Leu Ser Leu Arg Thr Ala Leu Ile Leu His Leu 100 105 110	575
cag aag aat acc acc att gat gtt cga aca aca ttt tcg aga tgc tta Gln Lys Asn Thr Thr Ile Asp Val Arg Thr Thr Phe Ser Arg Cys Leu 115 120 125	623
tca aaa gag tgg gga agt ttc ttg gaa gag agt tac cca tat ttc ctg Ser Lys Glu Trp Gly Ser Phe Leu Glu Glu Ser Tyr Pro Tyr Phe Leu 130 135 140	671
ata gtt gca gac gaa ggc ctg aac gat cta caa aca cag ctt ttc aac Ile Val Ala Asp Glu Gly Leu Asn Asp Leu Gln Thr Gln Leu Phe Asn 145 150 155	719
ttt tta atc att cat tct tgg gca agg aag gtc aac gtt gta ctt tcc Phe Leu Ile Ile His Ser Trp Ala Arg Lys Val Asn Val Val Leu Ser 160 165 170 175	767
tca ggg caa gaa tct gat gtt ctt tgc ctt tat gca tac ctt ctt cca Ser Gly Gln Glu Ser Asp Val Leu Cys Leu Tyr Ala Tyr Leu Leu Pro 180 185 190	815
agc atg tac aga cac cag att ttt tcc tgg aag aat aag cag aac att Ser Met Tyr Arg His Gln Ile Phe Ser Trp Lys Asn Lys Gln Asn Ile 195 200 205	863
aaa gat gct tat aca acc ctg ctt aac cag ttg gaa aga ttt aag ctt Lys Asp Ala Tyr Thr Thr Leu Leu Asn Gln Leu Glu Arg Phe Lys Leu 210 215 220	911
tca gca tta gca cct ctt ttt gga agt tta aaa tgg aat aat att acg Ser Ala Leu Ala Pro Leu Phe Gly Ser Leu Lys Trp Asn Asn Ile Thr 225 230 235	959
gaa gag gca cac aag act gta tct ctg ctt aca caa gtc tgg cca gaa Glu Glu Ala His Lys Thr Val Ser Leu Leu Thr Gln Val Trp Pro Glu 240 245 250 255	1007
gga tct gac att cgg cgt gtc ttt tgt gtt act tca tgc tca tta tct Gly Ser Asp Ile Arg Arg Val Phe Cys Val Thr Ser Cys Ser Leu Ser 260 265 270	1055
ttg aga atg tac cat cgc ttt tta gga aac aga gag ccc tcc tct ggt Leu Arg Met Tyr His Arg Phe Leu Gly Asn Arg Glu Pro Ser Ser Gly 275 280 285	1103
cag gaa act gag atc caa cag gtg aac agt aat tgc tta acc ctg cag Gln Glu Thr Glu Ile Gln Gln Val Asn Ser Asn Cys Leu Thr Leu Gln 290 295 300	1151

gag atg gaa gat ttg tgt aaa ctg cat tgt ctc act gtg gtt ttt cta Glu Met Glu Asp Leu Cys Lys Leu His Cys Leu Thr Val Val Phe Leu 305 310 315	1199
ctc cat ctg cct ctt tct caa aga gct tgt gct aga gtc atc act tcc Leu His Leu Pro Leu Ser Gln Arg Ala Cys Ala Arg Val Ile Thr Ser 320 325 330 335	1247
cat tgg gct gag gac atg aag cct tta tta caa atg aaa aag tgg tgt His Trp Ala Glu Asp Met Lys Pro Leu Leu Gln Met Lys Lys Trp Cys 340 345 350	1295
gaa tat ttc atc tta aga aat ata cat act ttt gaa ttt tgg aat ctg Glu Tyr Phe Ile Leu Arg Asn Ile His Thr Phe Glu Phe Trp Asn Leu 355 360 365	1343
aat tta att cac ctt tct gac tta aat gat gag ctt ttg ttg aag aat Asn Leu Ile His Leu Ser Asp Leu Asn Asp Glu Leu Leu Leu Lys Asn 370 375 380	1391
att gct ttt tac tat gaa aat gaa aat gta aaa ggc cta cat ttg aat Ile Ala Phe Tyr Tyr Glu Asn Glu Asn Val Lys Gly Leu His Leu Asn 385 390 395	1439
ttg gga gat acc att atg aaa gat tat gaa tat ctc tgg aat acc gta Leu Gly Asp Thr Ile Met Lys Asp Tyr Glu Tyr Leu Trp Asn Thr Val 400 405 410 415	1487
tca aag ttg gtc aga gac ttt gag gtt gga cag cca ttt cct ctg aga Ser Lys Leu Val Arg Asp Phe Glu Val Gly Gln Pro Phe Pro Leu Arg 420 425 430	1535
aca aca aaa gtt tgt ttt ctt gga aag aaa cca tca cca atc aaa gac Thr Thr Lys Val Cys Phe Leu Gly Lys Lys Pro Ser Pro Ile Lys Asp 435 440 445	1583
agc tcc aat gaa atg gtg ccc aat ttg ggt ttt att cca acg tca tct Ser Ser Asn Glu Met Val Pro Asn Leu Gly Phe Ile Pro Thr Ser Ser 450 455 460	1631
ttt gtg gtt gat aaa ttt gct gga gat att ttg aaa gat ttg cct ttt Phe Val Val Asp Lys Phe Ala Gly Asp Ile Leu Lys Asp Leu Pro Phe 465 470 475	1679
cta aag agt gat gat cct att gtt act tca ctg gtt aaa caa aag gaa Leu Lys Ser Asp Asp Pro Ile Val Thr Ser Leu Val Lys Gln Lys Glu 480 485 490 495	1727
ttt gat gaa ctt gtg cac tgg cat tct cat aaa ccc ctg agt gat gat Phe Asp Glu Leu Val His Trp His Ser His Lys Pro Leu Ser Asp Asp 500 505 510	1775

tat gac agg tcc agg tg t cag ttt gat gaa aaa tct aga gac cct cgt Tyr Asp Arg Ser Arg Cy s Gln Phe Asp Glu Lys Ser Arg Asp Pro Arg 515 520 525	1823
gtt ctt aga tct gtg ca a aag tat cat gtt ttc caa cgg ttt tat ggg Val Leu Arg Ser Val Gl n Lys Tyr His Val Phe Gln Arg Phe Tyr Gly 530 535 540	1871
aat tca tta gaa aca gt c tct tcg aaa atc atc gtg act caa act att Asn Ser Leu Glu Thr Val Ser Ser Lys Ile Ile Val Thr Gln Thr Ile 545 550 555	1919
aag tca aag aag gat tt t agt ggg ccc aag agc aaa aag gca cac gag Lys Ser Lys Lys Asp Phe Ser Gly Pro Lys Ser Lys Lys Ala His Glu 560 565 570 575	1967
acc aag gct gaa ata at t gct aga gag aat aag aaa agg tta ttt gcc Thr Lys Ala Glu Ile Il e Ala Arg Glu Asn Lys Lys Arg Leu Phe Ala 580 585 590	2015
agg gaa gaa caa aag ga a gag caa aag tgg aat gct ttg tca ttt tct Arg Glu Glu Gln Lys Gl u Glu Gln Lys Trp Asn Ala Leu Ser Phe Ser 595 600 605	2063
att gaa gag caa ttg aa a gaa aat tta cac tct gga ata aag agc ctg Ile Glu Glu Gln Leu Ly s Glu Asn Leu His Ser Gly Ile Lys Ser Leu 610 615 620	2111
gaa gat ttt ttg aaa tc c tgt aaa agt agc tgt gtg aaa ctt cag gtt Glu Asp Phe Leu Lys Se r Cys Lys Ser Ser Cys Val Lys Leu Gln Val 625 630 635	2159
gaa atg gtg ggg tta ac t gct tgc ttg aaa gcc tgg aaa gaa cat tgc Glu Met Val Gly Leu Th r Ala Cys Leu Lys Ala Trp Lys Glu His Cys 640 645 650 655	2207
cga agt gaa gaa ggt aa a acc acg aaa gat tta agt ata gct gtt cag Arg Ser Glu Glu Gly Ly s Thr Thr Lys Asp Leu Ser Ile Ala Val Gln 660 665 670	2255
gtg atg aaa agg atc ca c tcc ttg atg gaa aaa tac tca gaa ctt tta Val Met Lys Arg Ile Hi s Ser Leu Met Glu Lys Tyr Ser Glu Leu Leu 675 680 685	2303
caa gaa gat gat cgg ca a ctc ata gcc aga tgc ctt aag tat tta gga Gln Glu Asp Asp Arg Gl n Leu Ile Ala Arg Cys Leu Lys Tyr Leu Gly 690 695 700	2351
ttt gat gag ttg gca ag t tct tta cat cca gcc cag gat gca gaa aat Phe Asp Glu Leu Ala Se r Ser Leu His Pro Ala Gln Asp Ala Glu Asn 705 710 715	2399

gat gta aaa gtg aag aa a agg aat aaa tat tca att ggc att ggg cca Asp Val Lys Val Lys Ly s Arg Asn Lys Tyr Ser Ile Gly Ile Gly Pro 720 72 5 730 735	2447
gct cgg ttc caa ctg ca a tac atg ggc cat tat ttg ata cga gat gag Ala Arg Phe Gln Leu Gl n Tyr Met Gly His Tyr Leu Ile Arg Asp Glu 740 745 750	2495
aga aaa gac cca gat cc c agg gtc cag gat ttt att ccc gac aca tgg Arg Lys Asp Pro Asp Pr o Arg Val Gln Asp Phe Ile Pro Asp Thr Trp 755 760 765	2543
cag cga gag ctc ctt ga t gtt gtg gat aag aat gag tca gca gtg att Gln Arg Glu Leu Leu Asp Val Val Asp Lys Asn Glu Ser Ala Val Ile 770 775 780	2591
gtt gcc cca acg tcc tc a ggc aaa aca tat gcc tcc tac tac tgt atg Val Ala Pro Thr Ser Se r Gly Lys Thr Tyr Ala Ser Tyr Tyr Cys Met 785 790 795	2639
gag aaa gtg ctg aag ga g agc gac gac ggg gtg gtc gtg tac gtt gca Glu Lys Val Leu Lys Gl u Ser Asp Asp Gly Val Val Val Tyr Val Ala 800 80 5 810 815	2687
ccc aca aag gcc ctt gt t aat caa gtg gca gca act gtt cag aat cgt Pro Thr Lys Ala Leu Val Asn Gln Val Ala Ala Thr Val Gln Asn Arg 820 825 830	2735
ttt acg aaa aat ctg cc a agt ggt gaa gtt ctc tgt ggt gtt ttc acc Phe Thr Lys Asn Leu Pr o Ser Gly Glu Val Leu Cys Gly Val Phe Thr 835 840 845	2783
agg gag tat cgt cat ga t gcc tta aac tgt cag gta ctt att aca gtg Arg Glu Tyr Arg His Asp Ala Leu Asn Cys Gln Val Leu Ile Thr Val 850 855 860	2831
cct gcc tgc ttt gaa at t ctg ctg ctt gct cct cat cgc caa aac tgg Pro Ala Cys Phe Glu Il e Leu Leu Leu Ala Pro His Arg Gln Asn Trp 865 870 875	2879
gtg aaa aag atc aga ta t gtt ata ttt gat gag gtt cat tgt ctt ggt Val Lys Lys Ile Arg Tyr Val Ile Phe Asp Glu Val His Cys Leu Gly 880 88 5 890 895	2927
gga gaa att gga gca ga a atc tgg gaa cat ctc ctt gtc atg atc cga Gly Glu Ile Gly Ala Gl u Ile Trp Glu His Leu Leu Val Met Ile Arg 900 905 910	2975
tgt ccc ttt ttg gct ct t tca gct acc ata agt aat cct gaa cat ctc Cys Pro Phe Leu Ala Le u Ser Ala Thr Ile Ser Asn Pro Glu His Leu 915 920 925	3023

acc gag tgg cta caa tc g gta aaa tgg tac tgg aaa caa gaa gac aaa Thr Glu Trp Leu Gln Ser Val Lys Trp Tyr Trp Lys Gln Glu Asp Lys 930 935 940	3071
ata att gaa aat aat ac c gct tct aaa aga cat gtg ggt cgt cag gcc Ile Ile Glu Asn Asn Thr Ala Ser Lys Arg His Val Gly Arg Gln Ala 945 950 955	3119
ggc ttt ccc aaa gac ta c ttg caa gta aaa caa tcg tat aaa gtt aga Gly Phe Pro Lys Asp Tyr Leu Gln Val Lys Gln Ser Tyr Lys Val Arg 960 965 970 975	3167
ctt gtg ctc tat gga ga g agg tat aat gat cta gag aag cat gta tgt Leu Val Leu Tyr Gly Glu Arg Tyr Asn Asp Leu Glu Lys His Val Cys 980 985 990	3215
tca ata aaa cat ggt ga c att cat ttt gat cat ttt cac cca tgt gct Ser Ile Lys His Gly Asp Ile His Phe Asp His Phe His Pro Cys Ala 995 1000 1005	3263
gca cta aca aca gat c at att gaa agg tat gg a ttc cct cct gat Ala Leu Thr Thr Asp His Ile Glu Arg Tyr Gly Phe Pro Pro Asp 1010 1015 1020	3308
ctt acc ctt tca cct c ga gaa agc atc cag ct g tat gat gcc atg Leu Thr Leu Ser Pro Arg Glu Ser Ile Gln Leu Tyr Asp Ala Met 1025 1030 1035	3353
ttt caa att tgg aaa a gt tgg cct cgg gcc ca g gaa ctg tgc cca Phe Gln Ile Trp Lys Ser Trp Pro Arg Ala Gln Glu Leu Cys Pro 1040 1045 1050	3398
gaa aac ttc att cat t tt aac aat aaa tta gt c att aaa aag atg Glu Asn Phe Ile His Phe Asn Asn Lys Leu Val Ile Lys Lys Met 1055 1060 1065	3443
gat gct agg aaa tat g aa gag agt cta aag gc a gaa tta aca agt Asp Ala Arg Lys Tyr Glu Glu Ser Leu Lys Ala Glu Leu Thr Ser 1070 1075 1080	3488
tgg att aaa aat ggc a ac gta gag cag gcc ag a atg gta ctt cag Trp Ile Lys Asn Gly Asn Val Glu Gln Ala Arg Met Val Leu Gln 1085 1090 1095	3533
aat ctt agt cct gaa g ca gat ttg agt cca ga a aac atg atc acc Asn Leu Ser Pro Glu Ala Asp Leu Ser Pro Glu Asn Met Ile Thr 1100 1105 1110	3578
atg ttt cca ctt cta g tt gaa aaa cta agg aa a atg gag aag tta Met Phe Pro Leu Leu Val Glu Lys Leu Arg Lys Met Glu Lys Leu 1115 1120 1125	3623

cct gca cta	ttt ttt t ta	ttc aag	tta gga gc t	gta gaa	aac gca	3668
Pro Ala Leu	Phe Phe L eu	Phe Lys	Leu Gly Al a	Val Glu	Asn Ala	
1130		1135		1140		
gct gaa agt	gtg agc a ct	ttc cta	aag aaa aa g	cag gag	aca aaa	3713
Ala Glu Ser	Val Ser Thr	Phe Leu	Lys Lys Ly s	Gln Glu	Thr Lys	
1145		1150		1155		
agg cct ccc	aaa gct g at	aaa gaa	gcc cat gt c	atg gct	aac aaa	3758
Arg Pro Pro	Lys Ala A sp	Lys Glu	Ala His Va l	Met Ala	Asn Lys	
1160		1165		1170		
ctt cga aaa	gtt aaa a aa	tcc ata	gag aaa ca a	aag atc	ata gat	3803
Leu Arg Lys	Val Lys L ys	Ser Ile	Glu Lys Gl n	Lys Ile	Ile Asp	
1175		1180		1185		
gaa aag agc	cag aaa a aa	acc aga	aat gtg ga t	caa agc	cta ata	3848
Glu Lys Ser	Gln Lys L ys	Thr Arg	Asn Val Asp	Gln Ser	Leu Ile	
1190		1195		1200		
cat gaa gct	gaa cat g at	aat cta	gtg aag tg t	cta gag	aag aac	3893
His Glu Ala	Glu His A sp	Asn Leu	Val Lys Cy s	Leu Glu	Lys Asn	
1205		1210		1215		
ctg gaa atc	cca cag g ac	tgc aca	tat gct ga t	caa aaa	gca gtg	3938
Leu Glu Ile	Pro Gln A sp	Cys Thr	Tyr Ala Asp	Gln Lys	Ala Val	
1220		1225		1230		
gac act gag	act ttg c ag	aag gta	ttt ggt cg a	gta aaa	ttt gaa	3983
Asp Thr Glu	Thr Leu G ln	Lys Val	Phe Gly Ar g	Val Lys	Phe Glu	
1235		1240		1245		
aga aaa ggt	gaa gaa t tg	aaa gcc	ttg gca ga a	agg ggt	att gga	4028
Arg Lys Gly	Glu Glu L eu	Lys Ala	Leu Ala Gl u	Arg Gly	Ile Gly	
1250		1255		1260		
tat cat cac	agt gct a tg	agt ttc	aaa gaa aa a	caa tta	gtt gaa	4073
Tyr His His	Ser Ala Met	Ser Phe	Lys Glu Ly s	Gln Leu	Val Glu	
1265		1270		1275		
atc ctc ttt	aga aaa g ga	tat ctt	agg gtg gt g	aca gct	act gga	4118
Ile Leu Phe	Arg Lys G ly	Tyr Leu	Arg Val Va l	Thr Ala	Thr Gly	
1280		1285		1290		
aca ctt gct	tta ggt g tc	aac atg	cct tgt aa a	tct gtg	gtt ttt	4163
Thr Leu Ala	Leu Gly V al	Asn Met	Pro Cys Ly s	Ser Val	Val Phe	
1295		1300		1305		
gct caa aac	tca gtc t at	ctg gat	gcg ttg aa t	tat aga	cag atg	4208
Ala Gln Asn	Ser Val Tyr	Leu Asp	Ala Leu As n	Tyr Arg	Gln Met	
1310		1315		1320		

tct ggc cgt Ser Gly Arg 1325	gct gga a ga aga ggt Ala Gly A rg Arg Gly 1330	caa gac ct g atg gga Gln Asp Le u Met Gly 1335	gat gta Asp Val	4253
tat ttc ttt Tyr Phe Phe 1340	gat att c ca ttc ccc Asp Ile P ro Phe Pro 1345	aaa ata gg a aaa ctc Lys Ile Gl y Lys Leu 1350	ata aaa Ile Lys	4298
tcc aat gtt Ser Asn Val 1355	cct gag c tg aga gga Pro Glu L eu Arg Gly 1360	cac ttc cc t ctc agc His Phe Pr o Leu Ser 1365	ata acc Ile Thr	4343
ctg gtc ctg Leu Val Leu 1370	cga ctc a tg ctg ctg Arg Leu Met Leu Leu 1375	gct tcc aa g gga gat Ala Ser Ly s Gly Asp 1380	gac cca Asp Pro	4388
gag gat acc Glu Asp Thr 1385	aag gca a ag gtg cta Lys Ala L ys Val Leu 1390	tca gtg ct a aag cat Ser Val Le u Lys His 1395	tca ttg Ser Leu	4433
ctg tcc ttc Leu Ser Phe 1400	aag caa c cc aga gtc Lys Gln P ro Arg Val 1405	atg gac at g tta aaa Met Asp Me t Leu Lys 1410	ctt tac Leu Tyr	4478
ttc ctg ttt Phe Leu Phe 1415	tct ttg c ag ttc ctg Ser Leu G ln Phe Leu 1420	gtg aaa ga g ggc tat Val Lys Gl u Gly Tyr 1425	tta gat Leu Asp	4523
caa gaa ggt Gln Glu Gly 1430	aat cct a tg ggg ttt Asn Pro Met Gly Phe 1435	gct gga ct t gta tca Ala Gly Le u Val Ser 1440	cat ttg His Leu	4568
cat tat cat His Tyr His 1445	gaa cct t ct aat ctt Glu Pro S er Asn Leu 1450	gtt ttt gt c agt ttt Val Phe Va l Ser Phe 1455	ctt gta Leu Val	4613
aat gga ctc Asn Gly Leu 1460	ttc cat g at ctc tgt Phe His A sp Leu Cys 1465	cag cca ac c agg aaa Gln Pro Thr Arg Lys 1470	ggc tca Gly Ser	4658
aaa cat ttt Lys His Phe 1475	tct caa g ac gtt atg Ser Gln A sp Val Met 1480	gaa aag ct a gta tta Glu Lys Le u Val Leu 1485	gta ttg Val Leu	4703
gca cat ctc Ala His Leu 1490	ttt gga a ga aga tat Phe Gly A rg Arg Tyr 1495	ttt cca cc a aag ttc Phe Pro Pr o Lys Phe 1500	caa gat Gln Asp	4748
gca cac ttc Ala His Phe 1505	gag ttt t at caa tca Glu Phe Tyr Gln Ser 1510	aag gtg tt c ctt gat Lys Val Phe Leu Asp 1515	gat ctc Asp Leu	4793

cct gag gat	ttt agt g at gct	tta gat gaa ta t aac atg	aaa att	4838
Pro Glu Asp	Phe Ser A sp Ala Leu	Asp Glu Tyr Asn Met	Lys Ile	
1520	1525	1530		
atg gag gac	ttt acc a ct ttc cta	cga att gt t tcc aaa	ctg gct	4883
Met Glu Asp	Phe Thr T hr Phe Leu	Arg Ile Va l Ser Lys	Leu Ala	
1535	1540	1545		
gat atg aat	cag gaa t at caa ctc	cca ttg tc a aaa atc	aaa ttc	4928
Asp Met Asn	Gln Glu Tyr Gln Leu	Pro Leu Ser r Lys Ile	Lys Phe	
1550	1555	1560		
aca ggt aaa	gaa tgt g aa gac tct	caa ctc gt a tct cat	ttg atg	4973
Thr Gly Lys	Glu Cys Glu Asp Ser	Gln Leu Va l Ser His	Leu Met	
1565	1570	1575		
agc tgc aag	gaa gga a ga gta gca	att tca cc a ttt gtt	tgt ctg	5018
Ser Cys Lys	Glu Gly A rg Va l Ala	Ile Ser Pr o Phe Val	Cys Leu	
1580	1585	1590		
tct ggg aac	ttt gat g at gat ttg	ctt cga ct a gaa act	cca aac	5063
Ser Gly Asn	Phe Asp A sp Asp Leu	Leu Arg Le u Glu Thr	Pro Asn	
1595	1600	1605		
cat gtt act	cta ggc a ca atc ggt	gtc aat cg c tct cag	gct cca	5108
His Val Thr	Leu Gly T hr Ile Gly	Val Asn Ar g Ser Gln	Ala Pro	
1610	1615	1620		
gtg ctg ttg	tca cag a aa ttt gat	aac cga gg a agg aaa	atg tcg	5153
Val Leu Leu	Ser Gln L ys Phe Asp	Asn Arg Gl y Arg Lys	Met Ser	
1625	1630	1635		
ctt aat gcc	tat gca c tg gat ttc	tac aaa ca t ggt tcc	ttg ata	5198
Leu Asn Ala	Tyr Ala L eu Asp Phe	Tyr Lys Hi s Gly Ser	Leu Ile	
1640	1645	1650		
gga tta gtc	cag gat a ac agg atg	aat gaa gg a gat gct	tat tat	5243
Gly Leu Val	Gln Asp A sn Arg Met	Asn Glu Gl y Asp Ala	Tyr Tyr	
1655	1660	1665		
ttg ttg aag	gat ttt g ca ctc acc	att aaa tc t atc agt	gtt tcc	5288
Leu Leu Lys	Asp Phe A la Leu Thr	Ile Lys Ser r Ile Ser	Val Ser	
1670	1675	1680		
ttg cgt gag	cta tgt g aa aat gaa	gac gac aa c gtt gtc	tta gcc	5333
Leu Arg Glu	Leu Cys Glu Asn Glu	Asp Asp As n Val Val	Leu Ala	
1685	1690	1695		
ttt gaa caa	ctg agt a ca act ttt	tgg gaa aa g tta aac	aaa gtc	5378
Phe Glu Gln	Leu Ser T hr Thr Phe	Trp Glu Ly s Leu Asn	Lys Val	
1700	1705	1710		

```

taa aaacaaagtc tatgcaa acc acttaaaaaat aattcca tag tagtttttca      5431
ggtcacgttt ttgattctta tgcttcttgc cagaaataca ttatgataaa gtggaaatac      5491
attacgatga agtggaaaga gcaaacactt tggaatcaaa cagagttgca atcaaacctg      5551
ccatgttctg tcatgaatac tcacaaatta tttagtatac ctgaatcttg gtttcttttt      5611
ataactgagt aataatgggt acatctcagg tagtttgagg attgactaaa aaaatgcgag      5671
aatgttgtat gtgactgaat aacaattttt actctgcgaa gccaaagtaa atataatatt      5731
atcagtaact ttatccccag tgtcagtatt tataaaatgt ttattaaggc tagaaaaaat      5791
gaatacaata tcctgaagggt gaaatatatt ctcttcaatt agcataaata tgatttacat      5851
aagttagcta tacagctatt gagatagtac tttctagtaa acttaaaacta ctttttaaac      5911
atacattttg tgatgattta acaaaaatat agagaatgat ttgctttatt gtaattgtat      5971
ataagtgact ggaaaagcac aaagaaataa agtgggttcg atctgttaaa taaaaaaaaa      6031
aaaaaaaaaa aaaa

```

```

<210> 2
<211> 1712
<212> PRT
<213> Homo sapiens

```

```

<400> 2
Met Glu Arg Asn Val Leu Thr Thr Phe Ser Gln Glu Met Ser Gln Leu
1          5          10          15

Ile Leu Asn Glu Met Pro Lys Ala Glu Tyr Ser Ser Leu Phe Asn Asp
20          25          30

Phe Val Glu Ser Glu Phe Phe Leu Ile Asp Gly Asp Ser Leu Leu Ile
35          40          45

Thr Cys Ile Cys Glu Ile Ser Phe Lys Pro Gly Gln Asn Leu His Phe
50          55          60

Phe Tyr Leu Val Glu Arg Tyr Leu Val Asp Leu Ile Ser Lys Gly Gly
65          70          75          80

Gln Phe Thr Ile Val Phe Phe Lys Asp Ala Glu Tyr Ala Tyr Phe Asn
85          90          95

Phe Pro Glu Leu Leu Ser Leu Arg Thr Ala Leu Ile Leu His Leu Gln
100         105         110

Lys Asn Thr Thr Ile Asp Val Arg Thr Thr Phe Ser Arg Cys Leu Ser
115         120         125

Lys Glu Trp Gly Ser Phe Leu Glu Glu Ser Tyr Pro Tyr Phe Leu Ile
130         135         140

Val Ala Asp Glu Gly Leu Asn Asp Leu Gln Thr Gln Leu Phe Asn Phe
145         150         155         160

```

Leu Ile Ile His Ser Trp Ala Arg Lys Val Asn Val Val Leu Ser Ser
 165 170 175
 Gly Gln Glu Ser Asp Val Leu Cys Leu Tyr Ala Tyr Leu Leu Pro Ser
 180 185 190
 Met Tyr Arg His Gln Ile Phe Ser Trp Lys Asn Lys Gln Asn Ile Lys
 195 200 205
 Asp Ala Tyr Thr Thr Leu Leu Asn Gln Leu Glu Arg Phe Lys Leu Ser
 210 215 220
 Ala Leu Ala Pro Leu Phe Gly Ser Leu Lys Trp Asn Asn Ile Thr Glu
 225 230 235 240
 Glu Ala His Lys Thr Val Ser Leu Leu Thr Gln Val Trp Pro Glu Gly
 245 250 255
 Ser Asp Ile Arg Arg Val Phe Cys Val Thr Ser Cys Ser Leu Ser Leu
 260 265 270
 Arg Met Tyr His Arg Phe Leu Gly Asn Arg Glu Pro Ser Ser Gly Gln
 275 280 285
 Glu Thr Glu Ile Gln Gln Val Asn Ser Asn Cys Leu Thr Leu Gln Glu
 290 295 300
 Met Glu Asp Leu Cys Lys Leu His Cys Leu Thr Val Val Phe Leu Leu
 305 310 315 320
 His Leu Pro Leu Ser Gln Arg Ala Cys Ala Arg Val Ile Thr Ser His
 325 330 335
 Trp Ala Glu Asp Met Lys Pro Leu Leu Gln Met Lys Lys Trp Cys Glu
 340 345 350
 Tyr Phe Ile Leu Arg Asn Ile His Thr Phe Glu Phe Trp Asn Leu Asn
 355 360 365
 Leu Ile His Leu Ser Asp Leu Asn Asp Glu Leu Leu Leu Lys Asn Ile
 370 375 380
 Ala Phe Tyr Tyr Glu Asn Glu Asn Val Lys Gly Leu His Leu Asn Leu
 385 390 395 400
 Gly Asp Thr Ile Met Lys Asp Tyr Glu Tyr Leu Trp Asn Thr Val Ser
 405 410 415
 Lys Leu Val Arg Asp Phe Glu Val Gly Gln Pro Phe Pro Leu Arg Thr
 420 425 430

Thr Lys Val Cys Phe Leu Gly Lys Lys Pro Ser Pro Ile Lys Asp Ser
 435 440 445
 Ser Asn Glu Met Val Pro Asn Leu Gly Phe Ile Pro Thr Ser Ser Phe
 450 455 460
 Val Val Asp Lys Phe Ala Gly Asp Ile Leu Lys Asp Leu Pro Phe Leu
 465 470 475 480
 Lys Ser Asp Asp Pro Ile Val Thr Ser Leu Val Lys Gln Lys Glu Phe
 485 490 495
 Asp Glu Leu Val His Trp His Ser His Lys Pro Leu Ser Asp Asp Tyr
 500 505 510
 Asp Arg Ser Arg Cys Gln Phe Asp Glu Lys Ser Arg Asp Pro Arg Val
 515 520 525
 Leu Arg Ser Val Gln Lys Tyr His Val Phe Gln Arg Phe Tyr Gly Asn
 530 535 540
 Ser Leu Glu Thr Val Ser Ser Lys Ile Ile Val Thr Gln Thr Ile Lys
 545 550 555 560
 Ser Lys Lys Asp Phe Ser Gly Pro Lys Ser Lys Lys Ala His Glu Thr
 565 570 575
 Lys Ala Glu Ile Ile Ala Arg Glu Asn Lys Lys Arg Leu Phe Ala Arg
 580 585 590
 Glu Glu Gln Lys Glu Glu Gln Lys Trp Asn Ala Leu Ser Phe Ser Ile
 595 600 605
 Glu Glu Gln Leu Lys Glu Asn Leu His Ser Gly Ile Lys Ser Leu Glu
 610 615 620
 Asp Phe Leu Lys Ser Cys Lys Ser Ser Cys Val Lys Leu Gln Val Glu
 625 630 635 640
 Met Val Gly Leu Thr Ala Cys Leu Lys Ala Trp Lys Glu His Cys Arg
 645 650 655
 Ser Glu Glu Gly Lys Thr Thr Lys Asp Leu Ser Ile Ala Val Gln Val
 660 665 670
 Met Lys Arg Ile His Ser Leu Met Glu Lys Tyr Ser Glu Leu Leu Gln
 675 680 685
 Glu Asp Asp Arg Gln Leu Ile Ala Arg Cys Leu Lys Tyr Leu Gly Phe
 690 695 700

Asp Glu Leu Ala Ser Ser Leu His Pro Ala Gln Asp Ala Glu Asn Asp
 705 710 715 720
 Val Lys Val Lys Lys Arg Asn Lys Tyr Ser Ile Gly Ile Gly Pro Ala
 725 730 735
 Arg Phe Gln Leu Gln Tyr Met Gly His Tyr Leu Ile Arg Asp Glu Arg
 740 745 750
 Lys Asp Pro Asp Pro Arg Val Gln Asp Phe Ile Pro Asp Thr Trp Gln
 755 760 765
 Arg Glu Leu Leu Asp Val Val Asp Lys Asn Glu Ser Ala Val Ile Val
 770 775 780
 Ala Pro Thr Ser Ser Gly Lys Thr Tyr Ala Ser Tyr Tyr Cys Met Glu
 785 790 795 800
 Lys Val Leu Lys Glu Ser Asp Asp Gly Val Val Val Tyr Val Ala Pro
 805 810 815
 Thr Lys Ala Leu Val Asn Gln Val Ala Ala Thr Val Gln Asn Arg Phe
 820 825 830
 Thr Lys Asn Leu Pro Ser Gly Glu Val Leu Cys Gly Val Phe Thr Arg
 835 840 845
 Glu Tyr Arg His Asp Ala Leu Asn Cys Gln Val Leu Ile Thr Val Pro
 850 855 860
 Ala Cys Phe Glu Ile Leu Leu Leu Ala Pro His Arg Gln Asn Trp Val
 865 870 875 880
 Lys Lys Ile Arg Tyr Val Ile Phe Asp Glu Val His Cys Leu Gly Gly
 885 890 895
 Glu Ile Gly Ala Glu Ile Trp Glu His Leu Leu Val Met Ile Arg Cys
 900 905 910
 Pro Phe Leu Ala Leu Ser Ala Thr Ile Ser Asn Pro Glu His Leu Thr
 915 920 925
 Glu Trp Leu Gln Ser Val Lys Trp Tyr Trp Lys Gln Glu Asp Lys Ile
 930 935 940
 Ile Glu Asn Asn Thr Ala Ser Lys Arg His Val Gly Arg Gln Ala Gly
 945 950 955 960
 Phe Pro Lys Asp Tyr Leu Gln Val Lys Gln Ser Tyr Lys Val Arg Leu
 965 970 975

Val	Leu	Tyr	Gly	Glu	Arg	Tyr	Asn	Asp	Leu	Glu	Lys	His	Val	Cys	Ser
			980					985						990	
Ile	Lys	His	Gly	Asp	Ile	His	Phe	Asp	His	Phe	His	Pro	Cys	Ala	Ala
		995					1000					1005			
Leu	Thr	Thr	Asp	His	Ile	Glu	Arg	Tyr	Gly	Phe	Pro	Pro	Asp	Leu	
	1010					1015					1020				
Thr	Leu	Ser	Pro	Arg	Glu	Ser	Ile	Gln	Leu	Tyr	Asp	Ala	Met	Phe	
	1025					1030					1035				
Gln	Ile	Trp	Lys	Ser	Trp	Pro	Arg	Ala	Gln	Glu	Leu	Cys	Pro	Glu	
	1040					1045					1050				
Asn	Phe	Ile	His	Phe	Asn	Asn	Lys	Leu	Val	Ile	Lys	Lys	Met	Asp	
	1055					1060					1065				
Ala	Arg	Lys	Tyr	Glu	Glu	Ser	Leu	Lys	Ala	Glu	Leu	Thr	Ser	Trp	
	1070					1075					1080				
Ile	Lys	Asn	Gly	Asn	Val	Glu	Gln	Ala	Arg	Met	Val	Leu	Gln	Asn	
	1085					1090					1095				
Leu	Ser	Pro	Glu	Ala	Asp	Leu	Ser	Pro	Glu	Asn	Met	Ile	Thr	Met	
	1100					1105					1110				
Phe	Pro	Leu	Leu	Val	Glu	Lys	Leu	Arg	Lys	Met	Glu	Lys	Leu	Pro	
	1115					1120					1125				
Ala	Leu	Phe	Phe	Leu	Phe	Lys	Leu	Gly	Ala	Val	Glu	Asn	Ala	Ala	
	1130					1135					1140				
Glu	Ser	Val	Ser	Thr	Phe	Leu	Lys	Lys	Lys	Gln	Glu	Thr	Lys	Arg	
	1145					1150					1155				
Pro	Pro	Lys	Ala	Asp	Lys	Glu	Ala	His	Val	Met	Ala	Asn	Lys	Leu	
	1160					1165					1170				
Arg	Lys	Val	Lys	Lys	Ser	Ile	Glu	Lys	Gln	Lys	Ile	Ile	Asp	Glu	
	1175					1180					1185				
Lys	Ser	Gln	Lys	Lys	Thr	Arg	Asn	Val	Asp	Gln	Ser	Leu	Ile	His	
	1190					1195					1200				
Glu	Ala	Glu	His	Asp	Asn	Leu	Val	Lys	Cys	Leu	Glu	Lys	Asn	Leu	
	1205					1210					1215				
Glu	Ile	Pro	Gln	Asp	Cys	Thr	Tyr	Ala	Asp	Gln	Lys	Ala	Val	Asp	
	1220					1225					1230				

Thr	Glu	Thr	Leu	Gln	Lys	Val	Phe	Gly	Arg	Val	Lys	Phe	Glu	Arg
1235						1240					1245			
Lys	Gly	Glu	Glu	Leu	Lys	Ala	Leu	Ala	Glu	Arg	Gly	Ile	Gly	Tyr
1250						1255					1260			
His	His	Ser	Ala	Met	Ser	Phe	Lys	Glu	Lys	Gln	Leu	Val	Glu	Ile
1265						1270					1275			
Leu	Phe	Arg	Lys	Gly	Tyr	Leu	Arg	Val	Val	Thr	Ala	Thr	Gly	Thr
1280						1285					1290			
Leu	Ala	Leu	Gly	Val	Asn	Met	Pro	Cys	Lys	Ser	Val	Val	Phe	Ala
1295						1300					1305			
Gln	Asn	Ser	Val	Tyr	Leu	Asp	Ala	Leu	Asn	Tyr	Arg	Gln	Met	Ser
1310						1315					1320			
Gly	Arg	Ala	Gly	Arg	Arg	Gly	Gln	Asp	Leu	Met	Gly	Asp	Val	Tyr
1325						1330					1335			
Phe	Phe	Asp	Ile	Pro	Phe	Pro	Lys	Ile	Gly	Lys	Leu	Ile	Lys	Ser
1340						1345					1350			
Asn	Val	Pro	Glu	Leu	Arg	Gly	His	Phe	Pro	Leu	Ser	Ile	Thr	Leu
1355						1360					1365			
Val	Leu	Arg	Leu	Met	Leu	Leu	Ala	Ser	Lys	Gly	Asp	Asp	Pro	Glu
1370						1375					1380			
Asp	Thr	Lys	Ala	Lys	Val	Leu	Ser	Val	Leu	Lys	His	Ser	Leu	Leu
1385						1390					1395			
Ser	Phe	Lys	Gln	Pro	Arg	Val	Met	Asp	Met	Leu	Lys	Leu	Tyr	Phe
1400						1405					1410			
Leu	Phe	Ser	Leu	Gln	Phe	Leu	Val	Lys	Glu	Gly	Tyr	Leu	Asp	Gln
1415						1420					1425			
Glu	Gly	Asn	Pro	Met	Gly	Phe	Ala	Gly	Leu	Val	Ser	His	Leu	His
1430						1435					1440			
Tyr	His	Glu	Pro	Ser	Asn	Leu	Val	Phe	Val	Ser	Phe	Leu	Val	Asn
1445						1450					1455			
Gly	Leu	Phe	His	Asp	Leu	Cys	Gln	Pro	Thr	Arg	Lys	Gly	Ser	Lys
1460						1465					1470			
His	Phe	Ser	Gln	Asp	Val	Met	Glu	Lys	Leu	Val	Leu	Val	Leu	Ala
1475						1480					1485			

16

His Leu	Phe Gly Arg A rg Tyr	Phe Pro Pro Lys	Phe Gln Asp Ala
1490	1495	1500	
His Phe	Glu Phe Tyr G ln Ser	Lys Val Phe Le u	Asp Asp Leu Pro
1505	1510	1515	
Glu Asp	Phe Ser Asp A la Leu	Asp Glu Tyr As n	Met Lys Ile Met
1520	1525	1530	
Glu Asp	Phe Thr Thr P he Leu	Arg Ile Val Ser	Lys Leu Ala Asp
1535	1540	1545	
Met Asn	Gln Glu Tyr G ln Leu	Pro Leu Ser Lys	Ile Lys Phe Thr
1550	1555	1560	
Gly Lys	Glu Cys Glu Asp Ser	Gln Leu Val Ser	His Leu Met Ser
1565	1570	1575	
Cys Lys	Glu Gly Arg V al Ala	Ile Ser Pro Phe	Val Cys Leu Ser
1580	1585	1590	
Gly Asn	Phe Asp Asp A sp Leu	Leu Arg Leu Gl u	Thr Pro Asn His
1595	1600	1605	
Val Thr	Leu Gly Thr I le Gly	Val Asn Arg Ser	Gln Ala Pro Val
1610	1615	1620	
Leu Leu	Ser Gln Lys P he Asp	Asn Arg Gly Ar g	Lys Met Ser Leu
1625	1630	1635	
Asn Ala	Tyr Ala Leu A sp Phe	Tyr Lys His Gl y	Ser Leu Ile Gly
1640	1645	1650	
Leu Val	Gln Asp Asn A rg Met	Asn Glu Gly As p	Ala Tyr Tyr Leu
1655	1660	1665	
Leu Lys	Asp Phe Ala L eu Thr	Ile Lys Ser Il e	Ser Val Ser Leu
1670	1675	1680	
Arg Glu	Leu Cys Glu A sn Glu	Asp Asp Asn V al	Val Leu Ala Phe
1685	1690	1695	
Glu Gln	Leu Ser Thr T hr Phe	Trp Glu Lys Le u	Asn Lys Val
1700	1705	1710	